

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A wireless LAN terminal comprising:

a reception means for receiving a wireless LAN signal from another wireless LAN terminal;

an encapsulation means for encapsulating the wireless LAN signal in OSI layer 2 by providing the wireless LAN signal with a header having its own terminal's MAC address as an originating MAC address and a wireless LAN base station's MAC address as a destination MAC address, such that the encapsulated wireless LAN signal includes at least two headers, each including an originating MAC address and a destination MAC address; and

a transmission means for transmitting the encapsulated wireless LAN signal to the wireless LAN base station.

2. (original): The wireless LAN terminal according to claim 1, further comprising:

a means for, when a first hierarchy inquiry is received from said another wireless LAN terminal, transmitting a second hierarchy inquiry containing a hierarchy incremented by one higher than a hierarchy contained in the first hierarchy inquiry to the wireless LAN base station; and

a means for, when a first hierarchy response is received from the wireless LAN base station, transmitting a second hierarchy response containing the same hierarchy as that contained in the first hierarchy response to said another wireless LAN terminal.

3. (original): The wireless LAN terminal according to claim 1, further comprising:
a start/stop means for starting or stopping the reception means based on a request from said another wireless terminal and a state of communication with said another wireless terminal.

4. (original): The wireless LAN terminal according to claim 1, further comprising:
a channel setup means for setting a wireless channel of the reception means.

5. (currently amended): A wireless LAN base station comprising:
an encapsulation means for encapsulating a wireless LAN signal destined for a first wireless LAN terminal in OSI layer 2 by providing the wireless LAN signal with a header having its own base station's MAC address as an originating MAC address and a second wireless LAN terminal's MAC address as a destination MAC address, such that the encapsulated wireless LAN signal includes at least two headers, each including an originating MAC address and a destination MAC address; and

a transmission means for transmitting the encapsulated wireless LAN signal to the second wireless LAN terminal.

6. (original): The wireless LAN terminal according to claim 5, further comprising:
a means for, when a hierarchy inquiry is received from a wireless LAN terminal, returning a hierarchy response containing the same hierarchy as that contained in the hierarchy inquiry to the wireless LAN terminal which has transmitted the hierarchy inquiry.

7. (currently amended): A wireless LAN terminal comprising:
a reception means for receiving a wireless LAN signal which is destined for another wireless LAN terminal and is encapsulated in OSI layer 2 by being provided with a header having a wireless LAN base station's MAC address as an originating MAC address and own terminal's MAC address as a destination address, such that the encapsulated wireless LAN signal includes at least two headers, each including an originating MAC address and a destination MAC address;

an extraction means for extracting the wireless LAN signal from the encapsulated wireless LAN signal; and

a transmission means for transmitting the extracted wireless LAN signal to said another wireless LAN terminal.

8. (original): The wireless LAN terminal according to claim 7, further comprising:
a means for, when a first hierarchy inquiry is received from said another wireless LAN terminal, transmitting a second hierarchy inquiry containing a hierarchy incremented by one

higher than a hierarchy contained in the first hierarchy inquiry to said another wireless LAN base station; and

a means for, when a first hierarchy response is received from the wireless LAN base station, transmitting a second hierarchy response containing the same hierarchy as that contained in the first hierarchy response to said another wireless LAN terminal.

9. (original): The wireless LAN terminal according to claim 7, further comprising:

a start/stop means for starting or stopping the transmission means based on a request from said another wireless terminal and a state of communication with said another wireless terminal.

10. (original): The wireless LAN terminal according to claim 7, further comprising:

a channel setup means for setting a wireless channel of the transmission means.

11. (currently amended): A wireless LAN terminal comprising:

a reception means for receiving a wireless LAN signal which is transmitted from a first wireless LAN terminal and is encapsulated in OSI layer 2 by being provided with a header having a second wireless LAN terminal's MAC address as an originating MAC address and own base station's MAC address as a destination address, such that the encapsulated wireless LAN signal includes at least two headers, each including an originating MAC address and a destination MAC address; and

an extraction means for extracting the wireless LAN signal from the encapsulated wireless LAN signal.

12. (original): The wireless LAN terminal according to claim 11, further comprising:
a means for, when a hierarchy inquiry is received from a wireless LAN terminal, returning a hierarchy response containing the same hierarchy as that contained in the hierarchy inquiry to the wireless LAN terminal which have transmitted the hierarchy inquiry.

13. (currently amended): A wireless LAN terminal comprising:
a first reception means for receiving a wireless LAN signal from another wireless LAN terminal;

an encapsulation means for encapsulating the wireless LAN signal in OSI layer 2 by providing the wireless LAN signal with a header having its own terminal's MAC address as an originating MAC address and a wireless LAN base station's MAC address as a destination MAC address, such that the encapsulated wireless LAN signal includes at least two headers, each including an originating MAC address and a destination MAC address;

a first transmission means for transmitting the encapsulated wireless LAN signal to the wireless LAN base station;

a second reception means for receiving a wireless LAN signal which is destined for said another wireless LAN terminal and is encapsulated in OSI layer 2 by being provided with a

header having the wireless LAN base station's MAC address as an originating MAC address and own terminal's MAC address as a destination address;

an extraction means for extracting the wireless LAN signal from the encapsulated wireless LAN signal received by the second reception means; and

a second transmission means for transmitting the extracted wireless LAN signal to said another wireless LAN terminal.

14. (original): The wireless LAN terminal according to claim 13, further comprising:

a means for, when a first hierarchy inquiry is received from said another wireless LAN terminal, transmitting a second hierarchy inquiry containing a hierarchy incremented by one higher than a hierarchy contained in the first hierarchy inquiry to the wireless LAN base station; and

a means for, when a first hierarchy response is received from the wireless LAN base station, transmitting a second hierarchy response containing the same hierarchy as that contained in the first hierarchy response to said another wireless LAN terminal.

15. (original): The wireless LAN terminal according to claim 13,

wherein the first reception means and the second reception means operate in a time sharing manner using a common wireless LAN module; and

wherein the first transmission means and the second transmission means operate in a time sharing manner using a common wireless LAN module.

16. (original): The wireless LAN terminal according to claim 13, further comprising:
a start/stop means for starting or stopping the first reception means and the second transmission means based on a request from said another wireless terminal and a state of communication with said another wireless terminal.

17. (original): The wireless LAN terminal according to claim 13, further comprising:
a channel setup means for setting a wireless channel of the first reception means and a wireless channel of the second transmission means.

18. (original): A wireless LAN terminal which communicates with a wireless LAN base station directly or via another wireless LAN terminal, comprising:

an inquiry means for sending a hierarchy inquiry to said another wireless LAN terminal and, if possible, to the wireless LAN base station; and

a roaming means for roaming from said another wireless LAN terminal to the wireless LAN base station when it is detected that a hierarchy indicated by a hierarchy response from the wireless LAN base station to the hierarchy inquiry is lower than a hierarchy indicated by a hierarchy response from said another wireless LAN terminal to the hierarchy inquiry.

19. (currently amended): A wireless communication method comprising the steps of:
receiving a wireless LAN signal from another wireless LAN terminal;

encapsulating the wireless LAN signal in OSI layer 2 by providing the wireless LAN signal with a header having its own wireless LAN terminal's MAC address as an originating MAC address and a wireless LAN base station's MAC address as a destination MAC address, such that the encapsulated wireless LAN signal includes at least two headers, each including an originating MAC address and a destination MAC address; and

transmitting the encapsulated wireless LAN signal to the wireless LAN base station.

20. (currently amended): A wireless communication method comprising the steps of:
encapsulating a wireless LAN signal destined for a first wireless LAN terminal in OSI layer 2 by providing the wireless LAN signal with a header having its own wireless LAN base station's MAC address as an originating MAC address and a second wireless LAN terminal's MAC address as a destination MAC address, such that the encapsulated wireless LAN signal includes at least two headers, each including an originating MAC address and a destination MAC address; and

transmitting the encapsulated wireless LAN signal to the second wireless LAN terminal.

21. (currently amended): A wireless communication method comprising the steps of:
receiving a wireless LAN signal which is destined for another wireless LAN terminal and is encapsulated in OSI layer 2 by being provided with a header having a wireless LAN base station's MAC address as an originating MAC address and own terminal's MAC address as a

destination address, such that the encapsulated wireless LAN signal includes at least two headers, each including an originating MAC address and a destination MAC address;

extracting the wireless LAN signal from the encapsulated wireless LAN signal; and
transmitting the extracted wireless LAN signal to said another wireless LAN terminal.

22. (currently amended): A wireless communication method comprising the steps of:
receiving a wireless LAN signal which is transmitted from a first wireless LAN terminal and is encapsulated in OSI layer 2 by being provided with a header having a second wireless LAN terminal's MAC address as an originating MAC address and own wireless LAN base station's MAC address as a destination address, such that the encapsulated wireless LAN signal includes at least two headers, each including an originating MAC address and a destination MAC address; and

extracting the wireless LAN signal from the encapsulated wireless LAN signal.

23. (original): A roaming method for a wireless LAN terminal to communicate with a wireless LAN base station directly or via another wireless LAN terminal, comprising the steps of:

making inquiries by sending a hierarchy inquiry to said another wireless LAN terminal and, if possible, to the wireless LAN base station; and

roaming from said another wireless LAN terminal to the wireless LAN base station when it is detected that a hierarchy indicated by a hierarchy response from the wireless LAN base

station to the hierarchy inquiry is lower than a hierarchy indicated by a hierarchy response from said another wireless LAN terminal to the hierarchy inquiry.